REMARKS

The Examiner maintains the rejection of claims 12 and 13 under 35 U.S.C. 103(a) as being unpatentable over Jiang in view of He (claim 12) and further in view of Minamino (claim 13). It would appear that we have a linguistics problem in describing the orientation of the beveled end of the fiber with respect to the detector. It is true that Jiang provides a beveled end to the fiber, the fiber being axially aligned with the detector, and also provides for tilting the detector so that the face of the detector is parallel to the beveled end of the fiber. However the detector in the present invention is not tilted to be parallel to the beveled end of the fiber, but is tilted and rotated with respect to the beveled end of the fiber. The configuration of Jiang produces low back reflection, but aggravates the polarization-dependent responsivity (as discussed by Applicant in the Background where tilting of the optical surface is discussed and in He – tilting of the optical surface introduces PDR). In other words tilted surfaces introduce polarization dependencies.

Perhaps using similar words to those used in the claims of issued U.S. Patent No. 6,789,955 may be helpful in describing the calibration environment recited in the preamble of claim 12, i.e., stating that the optical detector has "a detector surface tilted and rotated with respect to the beveled end."

He describes a polarized light source and polarization controller that provides a plurality of polarization states which is coupled to the pigtail fiber, and observes the electrical output from the detector with a meter. A GRIN lens or the fiber is adjusted laterally in various directions to determine what reduces the difference between the maximum and minimum values measured by the meter. The output of the GRIN

lens after alignment is butted to a window of the detector housing through which the light beam passes to the detector. The He technique for alignment is to find a maximum and/or minimum level of the output signal, then hold the SOP steady for the maximum or minimum and insert a polarizer between the lens and the detector and rotate the polarizer until it is aligned with the SOP. The orientation of the polarizer is then passed to the detector which is mounted rotatably in a bracket so that an arm of the bracket corresponds to the maximum/minimum response axis when the detector is then glued to the bracket. In other words the test of He is to determine the Rmax or Rmin of the detector and align that with the bracket arm. The bracket arm is then used as a reference when the bracket is mounted in the holder and tilted. He does not adjust a rotation angle about an optical axis between a beveled end of a fiber and a detector adjacent the beveled end, but rather adjusts a Rmax or Rmin axis to be aligned with a bracket arm prior to assembly in the detector holder. The concept of He is to use a polarization dependent transmission of an interface to compensate for the PDR of the detector, but does not address the issue of compensating for PDR introduced by the tilting of optical surfaces without using a compensating interface.

The Examiner's response to Applicant's prior remarks is that "Jiang clearly discloses tilting the detector with respect to the beveled end, whether that is with regard to the same plane or a two-dimensional plane is not required since applicant has not claimed this limitation." Applicant has amended claim 12 to recite that the detector "is tilted *and rotated* with respect to the beveled end", as discussed above, which clearly is not shown in Jiang.

The Examiner further said that "the fact that applicant has recognized another advantage which would flow naturally from following the suggestion of the prior art cannot be the basis for patentability when the differences would otherwise be obvious." However as indicated above He does not indicate that the detector is rotated adjacent the beveled end, but rather that the detector is rotated in a bracket to align a major axis with a bracket arm, which arm is then used as a reference in mounting the detector in the detector holder.

The Examiner refers to paragraphs 29 and 93 of He "for further clarification as to the polarization state of the light used to travel through the beveled fiber to the detector surface." These paragraphs merely indicate that "it is preferable to use a highly-polarized light beam, [but] it is possible to use any light beam having a significant non-zero degree of polarization", i.e., "the polarization controller 128 is adjusted to vary the SOP of the light beam over a wide range of possible SOPs." Applicant submits that He does "provide a source of light having a plurality of polarization states to the optical fiber" as recited by Applicant, but fails to teach or suggest that the detector is rotated about the optical axis adjacent the beveled end of the fiber. Also Applicant is looking for minimum peak-to-peak value, while He (since only the major polarization axes of the detector are being determined) does not care whether the output is maximum or minimum.

The Examiner refers to page 12, lines 58-61 of Minamino with respect to claim 13 that states that "the inclination angle can be adjusted to an angle set in advance by inclination adjusting means such as the inclination adjusting piece 12 and auxiliary ball 16." This just shows that a shim may be used to adjust a tilt angle in advance. This does not teach dynamic adjustment of the tilt angle while observing

the electrical output of the optical detector. Minamino is for aligning a laser array with optical fibers in insertion holes of a ferrule. None of the references adjust the tilt while observing the electrical output, and none of them indicate reiterating the tilting and rotating adjustments to obtain a lowest minimum peak-to-peak value.

In view of the foregoing amendment and remarks entry of this amendment and allowance of claims 12 and 13 are urged, and such action and the issuance of this case are requested. Should the Examiner maintain the rejection of these claims, entry of this amendment is requested as placing the case in better form for appeal by narrowing the issues.

Respectfully submitted,

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